



# Recruiting Small Commercial Customers to a Demand Response Program: Challenges and Results

Michael J. Gibbs  
ICF Consulting

June 2004

ICF Consulting.<sup>SM</sup> Powered by perspective.<sup>SM</sup>



# CEC-Sponsored Program

- ◆ Enhance curtailment capabilities
- ◆ Small commercial customers: <200 kW
- ◆ Provide financial incentives based on demonstrated curtailment capability

# Thoughts Going In

- ◆ Small commercial customers account for a large portion of total load – creating potential
- ◆ Difficult to address due to space conditioning and lighting needs
- ◆ Costly to address due to small size of curtailable load per location
- ◆ Is there a technology package that works:
  - Financially?
  - Technically?

# What We Needed to Sign Up Customers

- ◆ Compelling Customer Value Proposition:
  - How does the customer benefit?
- ◆ Cost-effective Strategy for:
  - Identifying customers
  - Screening and qualifying customers
  - Reaching customers
  - Closing the deal with customers

# Customer Value Proposition

- ◆ What do Customers Want?
  - Lower prices
  - Reliable service
  - Left alone
- ◆ What do Customers Avoid?
  - Losing control of their facilities

# Customer Value Proposition: Plausible for this Program

- ◆ Customers with multiple facilities want:
  - Better ability to control their facilities centrally
  - Better ability to diagnose operational issues centrally
  - Produce benefits every day
- ◆ Customers are willing to curtail load:
  - They want to retain control
  - Payments are nice, but...

# What We Offered

- ◆ Enterprise-wide Control Systems
  - Give customers the benefits of central control and diagnosis
  - Enable customers to curtail across multiple facilities using pre-set and pre-programmed parameters
  - Allow customers to maintain control

# How We Offered It

- ◆ Financial:
  - Co-fund up to 75% of cost
  - Up to \$150/kW of measured curtailment
- ◆ Assistance:
  - Project design: curtailment target; technologies
  - Curtailment plan
  - Curtailment test: funding and analysis



# Recruitment: Customer Profile

- ◆ Multiple sites: 10 or more
- ◆ Central ownership (not franchises)
- ◆ Motivated decision maker: Corporate or organization energy manager
- ◆ Minimal tenant complications
- ◆ Targets:
  - Chain Stores
  - Municipal Governments

# What We Found: Chain Stores

- ◆ Tolerance for curtailment varies, and is often not well known
  - Customer types
  - Duration more important than frequency
- ◆ Enterprise-wide energy management is highly valued
  - Makes it financially viable
  - Provides centralized control in near real time
- ◆ National energy managers are very motivated

# What We Found: Municipal Governments

- ◆ Public spiritedness is very high
- ◆ Centralized control is not wanted in many cases
- ◆ Procurement not feasible in the program timeframe
- ◆ Tolerance for curtailment is not known

# Going to Market: Personal Sale

- ◆ Personal selling and technical assistance would be required:
  - The offer is complex: cash incentive based on performance
  - There is uncertainty: customers do not know how much they can curtail
  - They need to make the right choice to realize benefits every day

# Key Ally: Vendors

- ◆ Natural marketers for the offering
- ◆ Strengthen existing customer relationships
- ◆ Participating vendors:
  - Ensure they understand the program
  - Ensure that we understand their technology

# Sales Process: 5 Stages

- ◆ Target List of Customers
- ◆ Awareness
- ◆ Understanding
- ◆ Commitment
- ◆ Decision

# Sales Process: 5 Stages

- ◆ Target List of Customers: Databases
- ◆ Awareness: Mailings; Website; Conferences
- ◆ Understanding: Telephone calls; E-mails
- ◆ Commitment: Curtailment assessment
- ◆ Decision: Cost; Incentive Payout; Benefits

# Sales Process: Activities

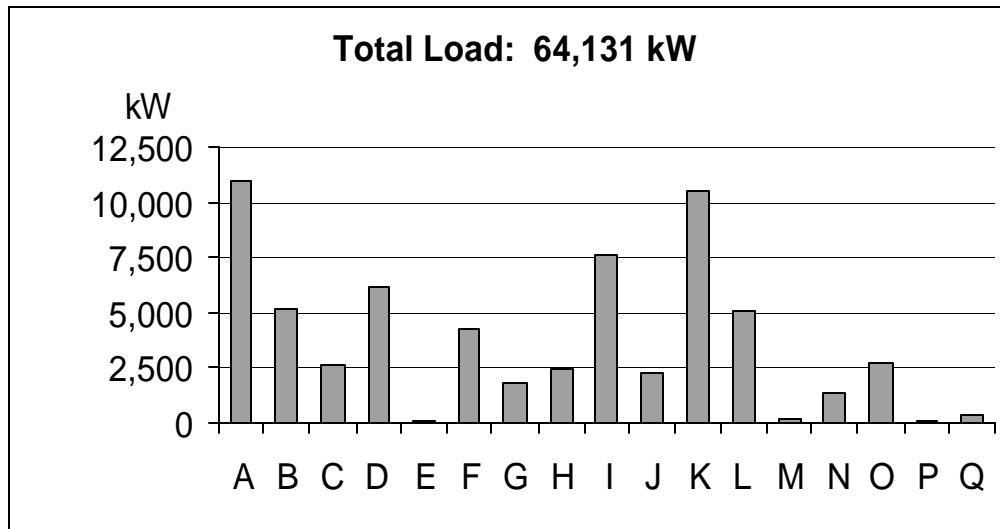
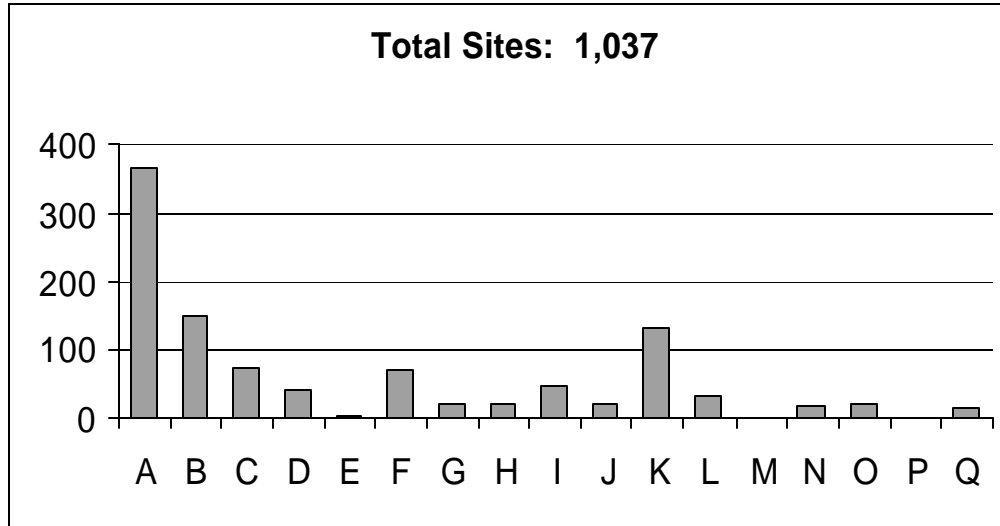
- ◆ Initial Contact
- ◆ Assessment: Hot – Warm – Cold
- ◆ Intense Follow Through
- ◆ Periodic Follow Up



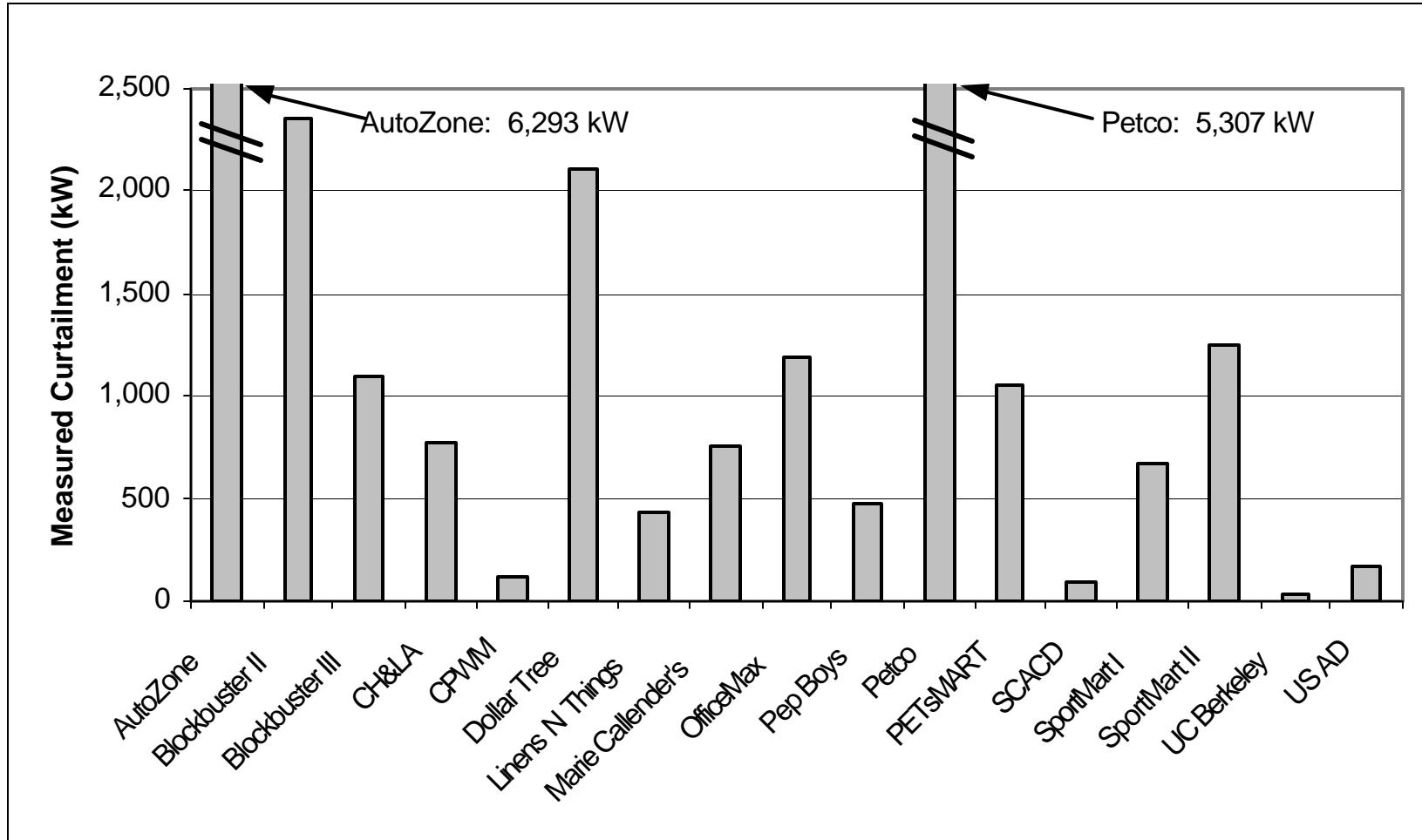
# Recruiting Activity: First 6 Months

| Type of Event   | Customer   | Other      | Vendor       | Total        |
|-----------------|------------|------------|--------------|--------------|
| Appointment     | 5          |            | 7            | 12           |
| Incoming Call   | 40         | 27         | 177          | 244          |
| Incoming E-Mail | 16         | 29         | 64           | 109          |
| Incoming Fax    | 3          |            | 3            | 6            |
| Incoming Mail   |            | 1          | 1            | 2            |
| Incoming Visit  | 3          |            | 5            | 8            |
| Outgoing Call   | 281        | 133        | 512          | 926          |
| Outgoing E-Mail | 111        | 65         | 294          | 470          |
| Outgoing Fax    | 2          | 1          | 2            | 5            |
| Outgoing Mail   | 5          | 3          | 24           | 32           |
| Outgoing Visit  | 15         | 11         | 27           | 53           |
| <b>Total</b>    | <b>481</b> | <b>270</b> | <b>1,116</b> | <b>1,867</b> |

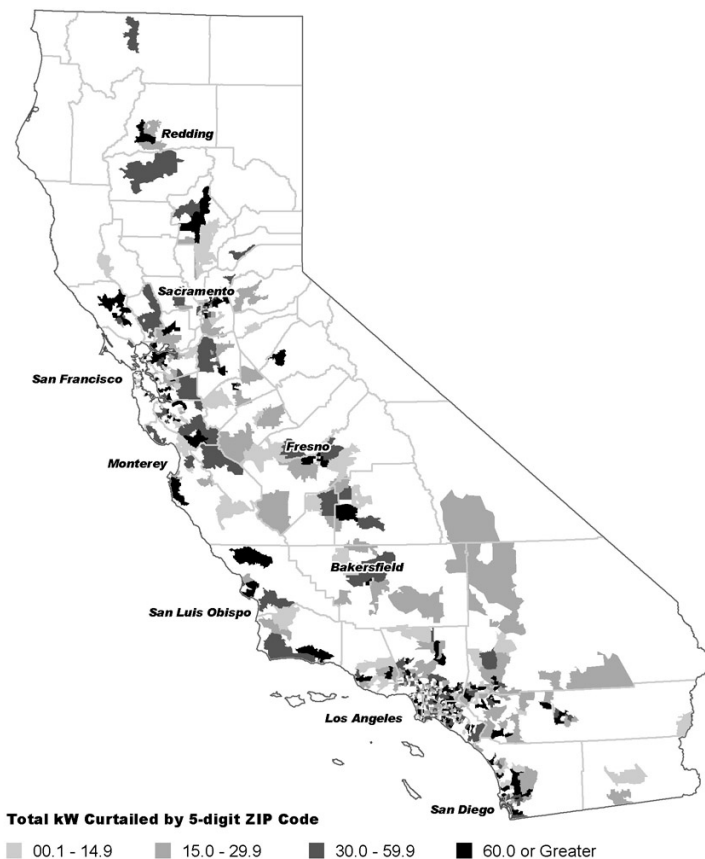
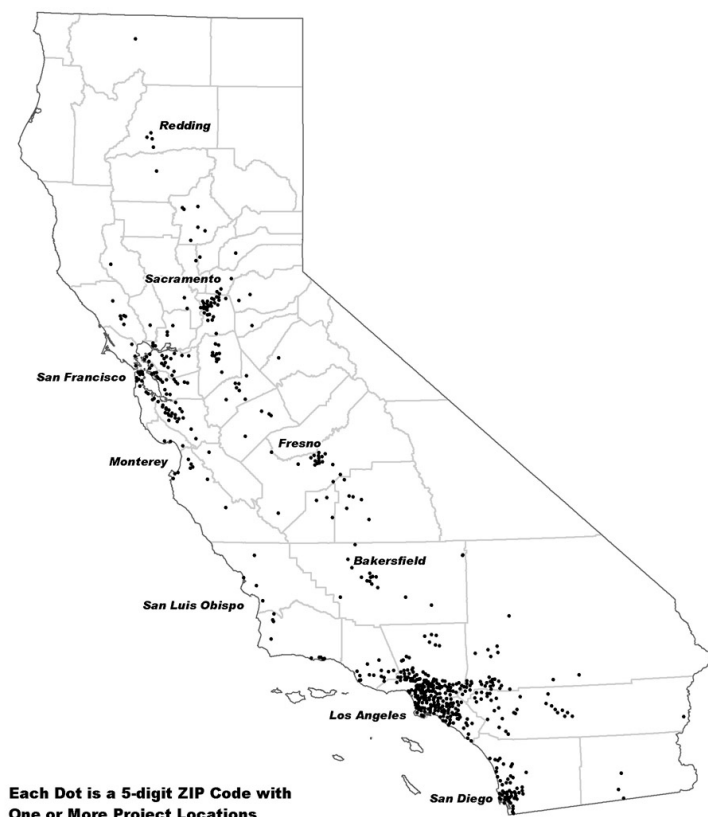
# 17 Projects



# Curtailed Load: 24,146 kW



# Locations and Curtailment by ZIP Code



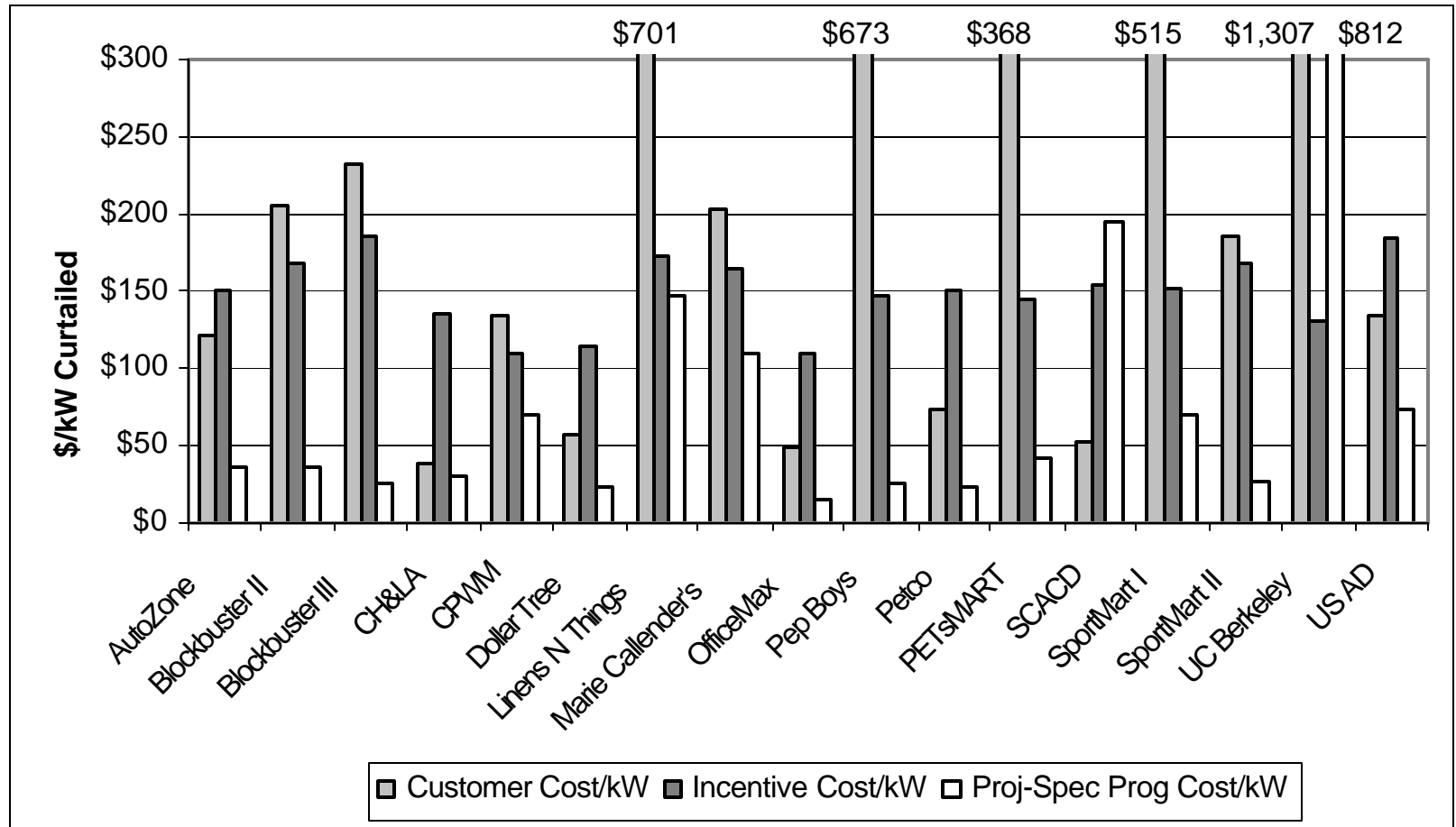
# What Did They Control?

| <b><u>System Controlled</u></b> | <b><u># Sites</u></b> | <b><u>% of Sites</u></b> |
|---------------------------------|-----------------------|--------------------------|
| HVAC                            | 998                   | 96%                      |
| Lighting Systems                | 957                   | 92%                      |
| Refrigeration                   | 22                    | 2%                       |
| Heat Lamp                       | 22                    | 2%                       |
| Hot Water (Electric)            | 225                   | 22%                      |

# What Did They Control?

| <b><u>Systems Controlled</u></b> | <b><u># Sites</u></b> | <b><u>% of Sites</u></b> |
|----------------------------------|-----------------------|--------------------------|
| HVAC Only                        | 80                    | 8%                       |
| Lighting Only                    | 39                    | 4%                       |
| HVAC & Lighting Only             | 671                   | 65%                      |
| <u>Multiple</u>                  | <u>247</u>            | <u>24%</u>               |
| Total                            | 1,037                 | 100%                     |

# Project Costs per kW



# Program Costs per kW

- ◆ Total Program Costs per kW of curtailment:  
\$241 per kW
- ◆ New Peak Load Capacity in California:  
\$475 per kW



# Lighting Curtailment



## Normal Operation

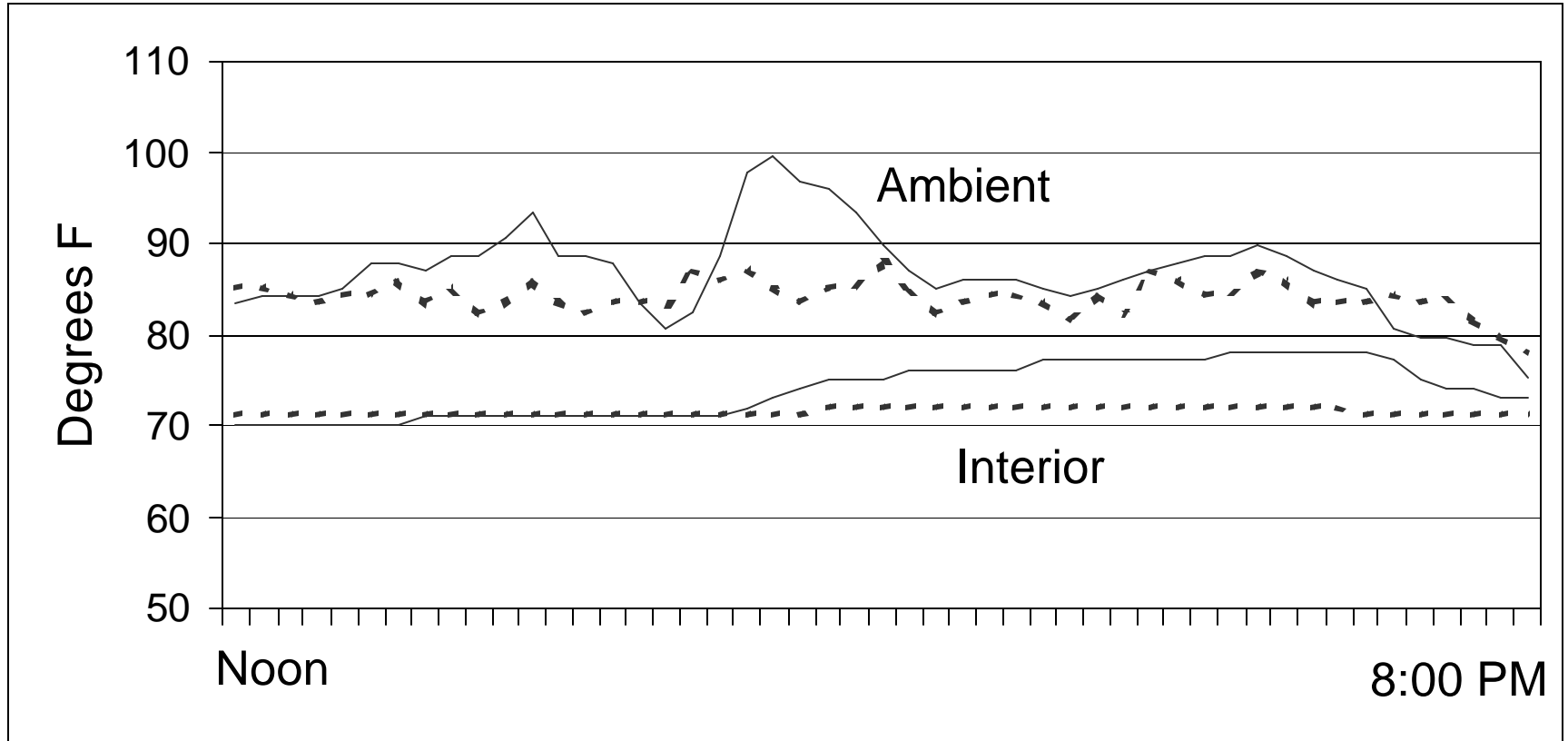


## Curtailment

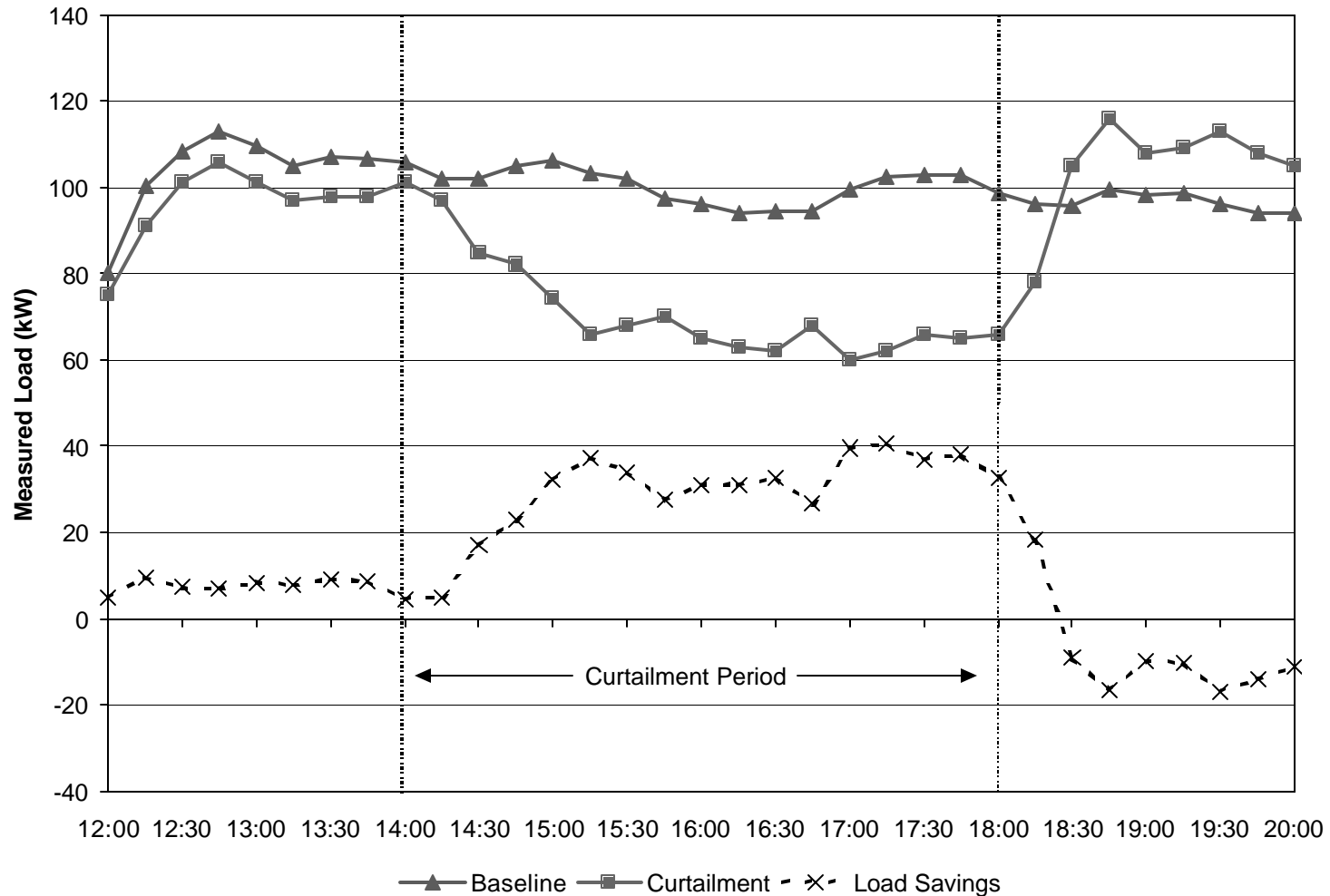
# Lighting Curtailment



# Impact of HVAC Curtailment



# Load Impact



# Technologies Used

| <b>Vendor/Technology</b>       | <b># Sites</b> | <b>Curt (kW)</b> |
|--------------------------------|----------------|------------------|
| Comfort Systems-Novar Envoi    | 150            | 2,354            |
| Comfort Systems-Novar Savvy    | 75             | 1,093            |
| ECS Energy-Meter               | 41             | 766              |
| Excel Energy Systems-ExcelSyus | 22             | 1,249            |
| In House-Barrington EMS        | 1              | 28               |
| In House-In House              | 1              | 97               |
| Novar-Savvy/Envoi              | 98             | 3,792            |
| Ostram Sylvania-Time Control   | 17             | 659              |
| Pentech-eMac                   | 87             | 3,160            |
| <b>(continued)</b>             |                |                  |

# Technologies Used (Cont'd)

| <b><u>Vendor/Technology</u></b> | <b><u># Sites</u></b> | <b><u>Curt (kW)</u></b> |
|---------------------------------|-----------------------|-------------------------|
| Public Energy Solutions         |                       |                         |
| -EnergySaver                    | 22                    | 431                     |
| Roth Brothers-Andover-Infinet   | 47                    | 1,157                   |
| Roth Brothers-Novar-EC          | 3                     | 31                      |
| Site Controls-Novar Upgrade     | 41                    | 1,538                   |
| Site Controls-Telsec 2000       | 51                    | 1,335                   |
| Venstar-Surveyor EMS            | 381                   | 6,455                   |
| Grand Total                     | 1,037                 | 24,146                  |

# Conclusions

- ◆ Retail chains highly motivated
  - Every day energy savings
  - Detect and fix outliers
- ◆ High tolerance for curtailment for certain types of customers
- ◆ Customers like to select their own vendors
- ◆ \$150/kW makes the payback attractive

# For More Information

Michael J. Gibbs  
ICF Consulting  
14724 Ventura Blvd., #1001  
Sherman Oaks, CA 91403  
818/325-3146  
[Mgibbs@icfconsulting.com](mailto:Mgibbs@icfconsulting.com)